



Figure 28. Roots falling out of an expanding pitch roller (EPR) sizer usually land on the root end. (PHOTO BY G. HOLMES)



Figure 29. Overlapping roots (shown inside yellow circle) on an electronic sizer leads to placement on the return loop of the packing line. (PHOTO BY G. HOLMES)

Fungicide may be applied either by dipping the roots in a tank of chemical suspension (Figure 25), by using a waterfall/curtain application (Figure 26), or by spraying the fungicide either alone or mixed in a wax solution as the sweetpotatoes pass over a brush roller conveyor (Figure 27). Regardless of treatment method, roots must be completely covered with the fungicide suspension. No treatment is 100 percent effective. Even properly treated roots may develop significant decay. For specific recommendations on the use of fungicides, refer to the manufacturer's label instructions, state Extension manuals (such as *North Carolina*

Agricultural Chemicals Manual or *Louisiana Plant Disease Management Guide*), or contact your local Extension center for guidelines in your state.

Sizing. Sorting sweetpotatoes into uniform sizes is a key function of packing. The U.S. sweetpotato grade standards for both fresh market and canning were updated in 2005 and are found in Appendix 2. Most mid-size sweetpotato packing lines employ expanding pitch roller (EPR) sizers. These sizers allow the roots to move along on a conveyor of rotating and ever-widening rollers. The smaller roots are the first to fall between adjacent rollers and are deposited on a belt moving perpendicular to the direction of the rollers (Figure 28). Larger roots are carried further before they are deposited to a different section of the belt. EPR sizers segregate sweetpotatoes only by diameter. Sweetpotatoes with the same diameter but different lengths will be placed in the same category. Unless there are large variations in root lengths (usually a function of cultivar and growing conditions), EPR sizers satisfy most commercial U.S. grade requirements.

As there is an increasing demand for more uniformity both in diameter and length, high-volume packers have invested in electronic sizers that optically scan both length and diameter and segregate sweetpotatoes into precise grades. If overlap (Figure 29), abnormal shape, or color prevents the sizer from categorizing a root properly, it will travel to the end of the sizer and go through a "return loop" to be resized. As much as 30 percent of roots have been observed going through this return loop. With this in mind, consideration must be given to the drop heights and speed of the conveyors on these return loops, because skinning

TABLE 3. Average decay control product use and application methods, averaged over 22 Louisiana and 21 North Carolina packing lines.

	Percent of Packing Houses	
	Louisiana	North Carolina
DECAY CONTROL PRODUCT USED		
Dicloran (Botran)	77-91*	81
Other (peracetic acid, bacteria-based biological control)	5-18*	9.5
None	5-9*	9.5
APPLICATION METHOD		
Spray	50	32.5
Curtain	0	4.5
Dip	45	42
In wax	0	21

* Several packing lines used different products one time to another.